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# Remittances and Reputations in Hawala Money-Transfer Systems: Self-Enforcing Exchange on an International Scale

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**Abstract**
Migrant worker remittances often take place outside the scope of government enforcement. Through an examination of the informal remittance transfer system of hawala, this paper argues that self-enforcing exchange mechanisms can support high volume trade in the absence of formal contract enforcement. Hawala networks employ ex post reputation mechanisms between agents and ex ante signaling to uphold obligations under conditions of contract uncertainty.

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## I. Introduction

Trade flourishes when individuals have confidence that other members of society will honor and enforce obligations and promises. In countries where the rule of law is the *modus operandi*, contract law serves to provide confidence by constraining traders, enforcing breaches, and lowering transaction costs. However, when the machinery of law is not formally present, private arrangements often emerge to mitigate conflict and support cooperation. One finds examples of efficient private enforcement institutions throughout history and within the context of international trade (Landa, 1981; Bernstein, 1992; Grief, 1993; Stringham, 2003, 2004; Leeson, 2006). In lieu of state enforcement, private arrangements rely on alternative mechanisms to sustain cooperation.

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Remittance networks provide a window into functional operations of self-enforcement. When a migrant worker residing in Saudi Arabia remits a portion of his earnings to his family in a remote Indian village, commonly he chooses the informal, illegal hawala network to do so. From the migrant worker's perspective, hawala will transfer funds at much lower cost than formal mechanisms.

Hawala is a set of money transfer networks in operation since ancient times, having emerged in the context where formal enforcement of internal transactions by rulers and governments was non-existent. As international trade began to emerge in South Asia in the 11th century, hawala networks soon became important to facilitating exchange. Moreover, these networks continue to operate today, as they did in the past, relying on reputation mechanisms and signaling to sustain coordination despite their illegality in most countries.

The literature on self-enforcing exchange relationships focuses predominantly on sustainable transactions between a relatively small number of traders in periodic face-to-face exchange (Landa, 1981; North, 1990; Bernstein, 1992; Grief, 1993; Stringham, 2003, 2004). Among small groups of people, word travels fast. Reputations develop, and because of the low cost of communication among the group, all others in the group can use knowledge of past performance to punish a cheat. In this manner, ex post multilateral punishment mechanisms – such as ostracism – work well to ensure cooperation. As long as myopic individuals do not populate the group, defection is limited by the ability to detect and punish.

While Greif (1989, 1993) shows that reputation mechanisms functioned efficiently in earlier periods among similar peoples, the results of this line of research suggest that these mechanisms may only be effective in particular settings with particular groups (i.e., several dozen Maghribi traders). To reinforce this view, Milgrom, North and Wiengast (1990) attribute the transition from "simple" reputation mechanisms to third party enforcement to the increasing costs of keeping everyone informed: a requisite condition for reputation mechanisms to operate. It is possible that these costs may be systematically lower under particular conditions, under which the particulars of time and place would determine the extent to which reputation mechanisms could sustain trade. At some point, however, self-enforcing exchange among large groups breaks down as the costs

of communication in large numbers become prohibitively high (Greif, 1989, 2002; Landa, 1994; Zerbe and Anderson, 2001).

North states that "realizing the economic potential of the gains from trade in a high technology world of enormous specialization and division of labor characterized by impersonal exchange is extremely rare, because one does not necessarily have repeated dealings, nor know the other party, nor deal with a small number of other people" (1990). Thus, while breakdown must occur at some level, it is premature to dismiss self-enforcing mechanisms as simple and operative only among small, localized groups. Notably, research by Ferson and Laitin (1996) and Leeson (2006) suggests that self-enforcing exchange can be effective across larger populations and greater distances, and Stringham (2005) considers environments as indeterminate as the Internet. The size and scope of self-enforcing networks of exchange merits further investigation.

Following Ferson and Laitin (1996), this paper considers ex ante and ex post mechanisms that create the foundations of extra-legal, yet peaceful, frequent exchange across great geographic distance. The compelling theory of ethnically homogeneous middleman groups put forth by Landa (1981, 1994) is shown herein to apply to exchange relations of spanning greater geographic distances and scope than previously considered. Hawala networks function as self-enforcing structures through ex post reputation mechanisms and ex ante signaling mechanisms. These serve as functional substitutes in niche markets for formal contract enforcement mechanisms.

Serving individuals as far flung as New York and rural South Asian villages, hawala transactions encompass a multitude of diverse traders and cross countless borders. This system of self-enforcement fills a very narrow but important gap in the formal market for remittance transfer services. While this does not necessarily mean that these self-enforcing exchange relationships and mechanisms can support all high volume trade, it does suggest that some types of trade are sustainable in this manner. Hence, hawala networks raise the question of the magnitude of trade, distance, and traders capable of exchanging through mechanisms of reputation and signaling.[1]

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[1] An extension of this research investigates exchange between heterogeneous groups and the extent to which these networks incorporate ethnically diverse traders.

This paper extends the literature on private or informal contract enforcement (Milgrom, North, and Weingast, 1990; Greif, 1989, 1993, 2002; Landa, 1994; Leeson, 2006; Stringham, 2003) by examining the remarkable hawala money-transfer systems that operate today between South Asia and the rest of the world. Section II begins by giving an account of how hawala transfer networks work and the extent of their operations. The important points here are the market niche that these self-enforcing remittance networks serve, the amount of trade flowing through these networks, and the geopolitical borders these transactions cross. The third section analyzes the ex post reputation mechanisms that sustain cooperation within the core of the network. Section IV examines the ex ante signaling devices used in reassuring peripheral clients. The fifth section concludes.

## II. The Hawala Networks

Hawala is a Middle Eastern and South Asian informal system of transferring money across long distances and borders. Similar networks have and do exist in many other parts of the world and throughout history (such as the *fei-ch'ien* in China and *al barakat i*n Somalia).[2] These practices represent long-standing Islamic traditions developed in various forms across the regions of the Middle East and South Asia. Emerging in ancient times, hawala networks continued to operate throughout the medieval and colonial eras, and are still widely in use today (Ballard, 2005; Passas, 2006; Schramm and Taube, 2003; Wilson, 2002; Ismail, 2007).

Hawala first emerged to facilitate trade across geographical, political and cultural borders in a context of weak, absent or conflicting formal institutions. In many cases, individuals chose the informal services as a direct result of generally poor provision of additional banking services by the state (Subramanian, 1987).[3] Hawala

[2] "Hawala" and "hundi" are sometimes used interchangeably – such as in parts of South Asia – but should be distinguished. Hundi was a bill of exchange, negotiable without endorsement, that also functioned as a remittance vehicle (Passas, 2006). For an extensive treatment of the system in Somalia, see Ismail (2007).

[3] For example, in mid-eighteenth century colonial India, "….the official Mughal Mint authorities were expected to do the needful for all importers of bullion, foreign and used coins free of charge, but the inevitable delay at the mints during the peak season compelled them [the British] to take resort to local and informal banking and exchange facilities offered by the Bania shroffs (sarraffs)" (Subramanian, 1987, p.476). Also see Dasgupta (1979). For a general description of shroffs and their functions in Mughal India, see Habib (1960, 1973, p.290-303).

operates by transferring funds through clearing systems that minimize the costly shipment of coin and bullion.[4] Over time, these needs led to the development of networks of lenders and businessmen that could transfer funds, often without physical currency changing hands.

*1. How Hawala Works*

In essence, the hawala system is an extensive and fluid network of individuals who facilitate the transfer of funds by exchanging credits and debts. A modern hawala transaction typically takes the following form: Individual (A), working in New York, wants to send remittances back to his family (B) in rural India. (A) contacts a local hawaladar (Ha). (Ha) arranges to take (A)'s dollars and a service fee. In Figure 1, the dashed line represents this exchange. In return, (Ha) gives (A) a code to pass on to (B) for identification upon delivery. (A) could phone his relatives and inform them of the upcoming transfer, or as in the past, pre-established dates, times, and amounts are often arranged by mail or word of mouth. (Ha) would then contact his business partner in India (Hb), providing him with the code and corresponding amount to be paid. Figure 1 shows this dotted line of communication. (Hb) then pays (B), who identifies himself by the code, the stipulated amount in rupees. The identification code could indicate family lineage or is often a passage from the Qur'an.

Again, the dashed line in Figure 1 represents the flow of money. For (A) and (B), the transaction is complete. However, (Ha) and (Hb) have an outstanding debt and claim, respectively. These two individuals may settle their obligations either through additional (reverse) transactions, or balancing at a later date. Often hawaladars with established relations will determine particular monthly dates for settling debts and credits. In many cases these settlements will occur in tandem with additional business practices, taking the form of misinvoicing goods. In other situations, as discussed below, the structure of the market determines the repayment schedule. The solid

[4] As an excerpt from a letter to the Court of Directors in 1636 by an Englishman in Surat demonstrates, "[c]oncerning the coining of your gold and silver into the species of this country, it is free for us though not safe. We should have to do with such dangerous people in the mint that we dare not adventure, nor will the most cunning merchants of these parts upon any occasion, but sell all to shroffs to whom it is most proper" (qtd. in Gokhale, 1971, p.110).

line in Figure 1 between the two hawaladars represents these practices.[5]

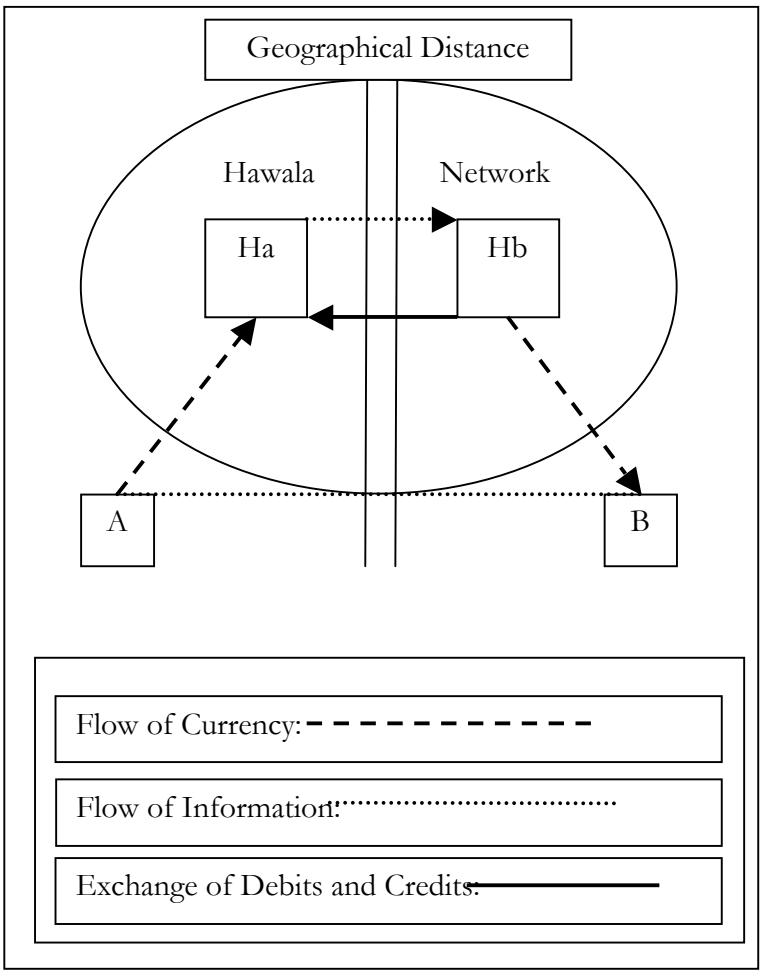


Figure 1: Hawala network structure.

Whether this system is used to pay debts, send remittances, or mobilize finances for consumption or investment purposes, the fundamental structure of the system remains the same. Although the

[5] See Schramm and Taube (2003) and El Qorchi et al. (2003). All authors describe the same basic modern funds transfer process with regards to different examples of hawala networks.

description given above is over-simplified, it identifies the two relationships of primary importance to understanding how this system operates. The points of overlap among different networks are the primary shortcomings of this diagram. It is possible that when (Ha) is sending money to rural India, the money is exchanged several times among additional hawaladars before reaching the final destination. (Ha) may not have a direct trading partner in the particular village, for example, and thus must first go through an additional hawaladar in Bombay. In the following sections, I further discuss examples of more detailed network relations.

*2. Why Not Western Union?*

It is important to note that hawala systems do not differ significantly in the *services they perform* from those services offered by the formal banking sector or transfer services such as Western Union or Money Gram (Wilson, 2002). An example of the formal banking sector providing similar money-transfer services is the Citibank NRI account, which offers free transfers from the United States to a relative's account in India. The distinctive feature of hawala is its operation outside the scope of, and without recourse to, formal legal or government enforcement.[6]

Sending money through a hawala network can be a preferred means of transfer when compared to the formal system for several reasons. Migrant workers sending remittances to their families in their home country use hawala the most. Many times the hawala system is a relatively less expensive means of moving money. Individuals using these services are sending small amounts of money, usually less than $200 (El Qorchi, 2003). Formal institutions typically charge flat fees of $10 to $15 per transfer. Thus, when amount of the transfer is low, on average the formal institutions charge a higher percentage of the total. The International Monetary Fund estimates the cost of hawala transactions to be between 2 and 5 percent (El Qorchi, 2003, p.16), while these same transactions in the formal sector can range from 10 to 20 percent (Ballard, 2005).

Furthermore, hawala transactions are typically complete within one to two days, often much faster than many formal means of

[6] "In the absence of any functioning state administration, the integrity of every agreement is ensured by the personal relationships existing between the two counterparts, and depends on trust as a last resort" (Monsutti, 2004, p.224).

accomplishing the same goal (Ballard, 2005; El Qorchi, 2003). This is the case when transfers are going to more remote areas where formal banks and Western Union offices do not operate. A more favorable exchange rate is also part of the lower price of the service, providing additional benefits over formal mechanisms. In the extreme case, in a location where no formal banking system exists, such as Afghanistan, hawala networks serve as the primary means of money transfer (Monsutti, 2004).[7]

Finally, hawala transactions are an attractive option in many cases because they provide a means of avoiding currency controls and bureaucratic red tape, as well as typically offer exchange rates more favorable than those offered by formal banks. Especially in countries with fixed or managed exchange rates, the rates offered by hawaladars are a better reflection of market conditions. In addition, in some circumstances undocumented workers are barred from using formal banks or transfer services by country-specific banking regulations. These regulations provide significant incentives to send money through informal systems, especially when the amount of the transfer is low.

*3. Size and Scope*

Increasing globalization and population migration can easily lead one to underestimate the role that informal, self-enforcing arrangements serve in facilitating exchange in the modern context of contract uncertainty of developing countries. Because these operations are illegal, formal data sources, such as balance of payments statistics, do not capture the volume of transactions that take place. Gaining perspective on the size and scope of hawala networks therefore must make use of alternative estimates.

Researchers at the Internal Monetary Fund conducted one study of the international size and scope of hawala. Recognizing the inherent difficulties of measuring networks and the volume of transactions conducted outside the legal sphere, this study attempts a

[7] "[I]t is difficult to determine which amount is remitted every year Afghanistan through unofficial channels. For instance, when migrants and refugees in Iran wish to send their savings back to their families in Afghanistan, they cannot use the formal banking system since it is unlikely that have identification papers; in any case, banks are no longer operating in Afghanistan. They therefore entrust their money to a businessman specializing in remittances known locally as a hawaladar." (Monsutti, 2004, p.220).

raw estimate of the volume of remittance flows. El Qorchi et al. (2003) construct a simulated model based on the available statistics on private (legal) transfers[8] and available data from 1981–2000 on parallel exchange rates in the illegal markets in 15 countries with operative hawala networks.[9] This model estimated that $10 to $35 billion was transferred through hawala per annum over the last 20 years (El Qorchi, 2003).

Separate studies corroborate these results. Abella (1989) as well as Alburo and Abella (1992) guess that hawala transactions in "Pakistan, the Philippines, Sudan and Egypt…could represent double or triple the amount of official remittance figures." Gilani et al. (1981) estimates that 48 per cent of Pakistani migrants transfer unrecorded remittances via the hawala system. As an anthropologist, Alessandro Monsutti reports of Afghanistan, "In September 1995, an important Hazara trader told me that 600 million afghanis (about $140,000 at the time on the black market) were sent every day from Quetta to the district of Jaghori alone" (2004, p.220).

Another means to gauging the amount of money flowing through hawala networks is to look at the value of goods misinvoiced in international exports. Misinvoicing is one of the primary ways hawaladars clear outstanding debts among each other. From 1970–1979, misinvoicing made up 30.7 percent of the value of total exports in the Middle East and Turkey (Reinhart and Rogoff, 2004). In the 1980s and 1990s, misinvoicing accounted for 16.7% and 17.4% of the value of total exports, respectively (Reinhart and Rogoff, 2004). Other estimates concerning Somali hawala place the figure between $750 million and $1 billion US annually (Omar, 2003).[10]

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[8] Data for this portion of the study is drawn from the International Monetary Fund, Balance of Payment Statistics Yearbook 2003.

[9] This data was collected by the IMF and matched to data used in Reinhart and Rogoff (2002), "The Modern History of Exchange Rate Arrangements: A Reinterpretation." *Quarterly Journal of Economics*, 119(1): 1–48.

[10] This estimate includes hawala firms that have formalized their network operations in Somalia, and would be upward biased as a representative account due to the fact that hawala has served as the primary mechanism for moving money into the war-torn failed state.

*4. Hawala: Not Just a Family Affair*

Discussions of hawala networks tend to underestimate the size and scope of such systems. By focusing on the fact that they flourish in historically tribal societies, past research has not appreciated the ability for these networks to integrate large numbers of foreign traders.

From firsthand accounts of contemporary hawala networks operating in Afghanistan, Iran, and Pakistan, Monsutti (2004) characterizes the four types of actors within the system. The first are close relatives, to which he identifies feelings of solidarity arising among individuals connected through the mother's side of the family. Familial relationships stemming from the father's side tend to be characterized by direct competition and conflict. Second are distant relatives and friends. These groups are the people of choice for engaging in business partnerships and lending activities. The third type is people from the same locality, ethnic or social group who "may be linked by the hawala system but may not be engaged in a close economic partnership" (Monsutti, 2004, p.224). Fourth, and most importantly, transfers of funds involve people from the host society, and those outside of the familiar circles of ethnicity or social background. "Without the intervention of the latter [outsiders], each social network would be an inefficient, isolated structure" (Monsutti, 2004, p.225).[11] Furthermore, from the recent qualitative study of hawala networks Passas (2006) indicates that high-level settlements among hawaladars may cross ethnic boundaries.

From accounts such as this, it becomes clear that hawala networks stretch far beyond family ties. To understand the complexity and diversity of modern hawala transactions, consider the following account given by anthropologist Robert Ballard (2005, p.332):

> Ha in Birmingham has taken orders for the delivery of Rs10m in Mirpur, for which he has received £75,000 from his UK-based customers. Meanwhile Hc in Karachi has a customer

[11] Outsider use and participation in these networks is not a recent development. Drawing on historical accounts of these networks in operation in the mid-seventeenth century, "... [t]he expansion of Gujarat's overseas trade…had resulted in the emergence of widely integrated Hundi network enabling merchant, administrator, soldier or even tourist to utilize it whenever necessary" (Subramanian, 1987, p.479)

> who wished to purchase $100,000 in order to settle the invoice for a consignment of televisions which he has imported from China, whose manufacturer is expecting payment to be made into his US dollar account in Hong Kong. Ha and Hc separately approach a specialist settlement broker in Dubai, Hd, who calculates (for the sake of argument) that Rs10m = US$100,000 = £75,000, so generating an ideal opportunity to arrange a back-to-back swap. Hence Hd sets up a hawala settlement in which Ha buys $100,000 on the London money market through his bank which he promptly sends by [electronic transfer] to Hd's account with the Bank of America in New York; meanwhile Hc takes delivery of Rs10m in cash from his television importing customer, which he promptly dispatches by road to Hb in Mirpur, thereby recompensing Hb for the disbursements made in response to Ha's previously faxed instructions; and to close the whole deal, Hd transfers $100,000 by Swift…from his account in New York to the television manufacturer's account in Hong Kong.

Hawala networks support large amounts of trade across borders and among many traders. Different means of establishing and conveying reputation will be involved at various stages in a hawala transaction. In particular, the mechanisms that secure cooperation in core transactions are distinctive from the mechanisms that do the same in peripheral transactions.

## III. Network Reputation Mechanisms

Exchanges between hawaladars constitute the core of the network, and can be viewed as a group to enforce transactions that take place among themselves. The members of the core club are able to secure benefits by sharing the costs of enforcement. What binds these members together to produce the level of cohesiveness capable of enforcing exchanges absent an impartial third party? Four mechanisms bind exchange: shared belief systems, repeated dealings, interconnectedness of additional business practices, and the structure of debts and credits.

Hawaladars typically share common religious beliefs, providing a basis for mutual understanding of values. As Kuran explains,

> The Islamic subeconomy enables these newcomers to establish business relationships with a diverse pool of ambitious, hard-working, but culturally handicapped people, who like themselves, are excluded from the economic mainstream. Their shared commitment to Islam, even if partly feigned, keeps many of their activities within social circles in which information about dishonest behavior spreads quickly, thus providing a basis for mutual trust (1995, p.169).

Even for hawaladars who are not particularly devout, self-identification with a religion can serve as a credible basis of trust.

Exchanging among those who are culturally similar to you lowers the transactions costs relative to exchange with outsiders by relying on a common understanding concerning the terms of trade. In other words, exchanging with those who are similar to you reduces the uncertainty as to what constitutes cheating. This lowers the total cost of enforcement by relying on already established norms of contractual obligation.

A shared religious affiliation, however, cannot be called upon to do all the heavy lifting required to explain the maintenance of hawala.[12] Repeated dealings amongst one another embed one shot transactions into an ongoing game in which hawaladars deal with multiple other hawaladars both simultaneously and sequentially. As Milgrom et al. (1990) argue, even if particular pairs of traders do not exchange regularly, if each trader trades regularly within the community of traders, then "transferable reputations" for honesty can serve as adequate bonds. Honest dealings are rewarded with ongoing participation in low cost transactions and generate a stream or revenue for the trustworthy participant. The better one's reputation, the less often will others refuse to do business.

Membership in the trading network brings with it an identity and reputation among others within the core. Investments made to establish and maintain trustworthiness and credibility are seen as specific investments in social capital (Schramm and Taube, 2003; Williamson, 1985). These investments only secure returns so long as

[12] Schramm and Taube make the unfounded generalization that "The tie to a religious system of the radical nature described (and assumed) here is much the same as a high, specific investment that prevents (social) transactions with other religious or social groups from ever taking place" (2003, p.412).

the member remains within the network. In other words, ostracism from the club entails a forfeiture of remunerative social capital.

Schramm and Taube (2003) believe that the religious nature of hawala networks limits the diversification hawaldars can achieve. They identify the choice of religion as final and irreversible; thus, the construction of the social bond over religion is exclusive. Consistent with the outcome described by Schramm and Taube (2003), the limits to diversification in transaction potential derive in part from the interconnectedness of economic activities among hawaladars.

For individuals in the network, moving money is not their only occupation. For most, it is not even their primary occupation. Hawaladars who provide these services today typically also run small merchandise shops or import/export operations.[13] This is similar to historical accounts of the evolution of hawala (Torri, 1991).[14] Clearing debts between hawaladars often occurs through the operations of these other business practices. For example, Ha sends a message to Hb requesting that he pay out remittances to Ha's clients. Ha and Hb are also trading partners in the import/export of garments. Ha, at a later date, would then ship Hb his ordered goods, billing him for the value of the goods less his outstanding debt for the hawala transfer.

The interconnectedness of hawala and traditional business practices strengthens the informal network ties between hawaladars. If a member of the network fails to uphold a hawala transaction, ostracism from future hawala transactions is an ex post multilateral punishment mechanism. Ostracism in this case operates in a similar fashion as described by Bernstein (1992) and Stringham (2002).

Due to the tied nature of these transactions, additional unilateral punishment by the cheated party is also possible. Cheating a member

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[13] "Many economic and trading activities are based on the hawala system. All of the shops of Hazarajat, from Yakalang to Behsud, from Panjab to Jaghori operate on this system…" (Monsutti, 2004, p.221).

[14] According to the Records of John Griffith, the incumbent Chief of the Board of Surat in 1790, "the natives here [in Surat] called shroffs were originally dealers in raw silk and piece goods." He goes on to describe that "…as a ship of small burthen could bring in these rich articles [piece goods and raw silk] to the value of two or three lacs and carry back only a tenth part of the proceeds in cotton, the only article of return, the merchants had no alternative left them of remitting the overplus but in bills of exchange. This induced them to take up the profession of shroffs, being so intimately connected with that of silk merchants" (Torri, 1991, p.373).

of the group is accompanied by general distrust and consequently a termination from profitable business relationships in other industries. In short, subjecting themselves to a broader range of economic sanctions (termination of import/export enterprises and funds transfer activities) creates a costly, credible signal of trustworthiness.

In hawala networks, the structure of exchange functions heavily to constrain opportunist behavior among traders in the network, while reinforcing honest dealing and cooperation. At any given time, one hawaladar has outstanding debts or credits with a number of other hawaladars. Simultaneously being in debt to one hawaladar and holding credits of another restricts the ability to cheat any one member. The repeated exchange between any two hawaladars is embedded into a system of simultaneous exchanges among others. If Ha is in debt to Hb, but has yet to clear credits he has accrued with Hc, he cannot fail to honor his obligation to Hb without that information traveling to Hc. In other words, the staggering of clearing debts among hawaladars lowers the probability of defection of any one member within the group.

What keeps one broker from accumulating debts with a great number of others and exiting the system? The structure of the informal remittance markets provides the key. Parallel markets in currency exist between the cities and the rural areas. The demand for foreign currency is strong in the cities and weak in rural areas. In rural areas, where the majority of remittances are sent, the demand is for local currency. The incentives of hawaladars in urban and rural areas are beneficially aligned to execute ongoing reciprocal exchange. These incentives, coupled with staggered timing of clearing debts and credits among network hawaladars, reinforce cooperative exchange.

These four factors: shared belief systems, social capital attached to hawala membership, the nature of repeated exchanges, and the interconnectedness of additional business practices, together make up the bond a defector would sacrifice if he chose to cheat any other member in the network. The structure of clearing debts and credits among hawaladars reduces the ability for agents to cheat and simultaneously provides an information transmission mechanism for communicating the past behaviors of other hawaladars.

*1. Communicating reputation*

The system ensures cooperation by transmitting information concerning other hawaladars. Transferable reputations succeed only

to the extent that other traders within the network can be kept informed of each other's past behaviors. Milgrom et al. (1990) identify the problem that reputation mechanisms overcome as the costliness of generating and communicating information rather than as the infrequency of trade between any particular pair of traders.

Ongoing exchanges among hawaladars operate both sequentially and simultaneously. As any one member is concurrently in positions of debit and credit, each member has multiple avenues and opportunities to communicate the past behaviors of others in the network. The costs of transmitting the relevant knowledge remain low because the total amount of information concerning past behavior required to sustain cooperative trades is limited.

Each individual hawaladar has the incentive to report accurately the reputation of those with whom he exchanges. If (Ha) were to make false accusations concerning (Hb), and information flows are uninterrupted, then other hawaladars would uncover that (Hb) was in fact honest. It is in the interest of each hawaladar to provide information to others in the network, thereby making their relationship more valuable. The repercussions of the lies then fall on (Ha). Because all agents within the network are aware of this, backward induction prevents most false accusations from emerging in the first place. The relative scarcity of false accusations also makes it easier to detect false information when it arises.

If a breach were to occur, the hawaladar unilaterally punishes the defector by terminating future trades and reports the defection to others with whom he exchanges. This is directly beneficial for the cheated hawaladar in that ostracism strengthens the certainty of future exchanges within the network. Accurate reporting also works to bolster his honest reputation among other honest hawaladars. False communication of defection is unlikely. Any such instance would suffer the same punishments as actual defection, without the immediate monetary gain.

The existence and persistence of these networks over the past thousand years raises the question of how information about hawaladars' reputations and the reputations of their clients could be transmitted effectively even when communication was slow and costly. Currently, the majority of this communication occurs though modern technology, leaving no paper trail in the wake of transactions (Ballard, 2002; El Qorchi et al., 2003; Passas, 2006; Wilson, 2002). Thus, it is illustrative to briefly cover how reputation was

communicated in the past as an insight into how hawaladars communicate today.

The hundi was the primary mechanism used in hawala networks to transmit information regarding hawaladars and clients' honesty in the absence of modern technology. Hundis were in essence bills of exchange, and different types of hundis reflected the corresponding reputation associated with the transacting parties.[15]

Generally speaking, there where two broad categories of hundis, each containing eight different types – the "*hamare gharu hundis*" and "*tumahre gharu hundis.*" Hawaladars issuing "*hamare gharu hundis*" on their own behalf were responsible for all losses or gains on these transactions. In "*tumahre gharu hundis,*" on the other hand, the charges will be borne by the opposite hawaladar, and the entries will be reversed "in the books" of the previous hawaladar.

From these two general categories, one comes to understand that ways existed to effectively communicate the relevant information for the transaction. The general category of hundi used to remit funds indicated the individual reputation at stake for a given transaction. If "*hamare gharu hundis*" were used, the hawaladar asking the other to pay out funds was vouching for his clients' credibility – and assuming profits or losses from the transaction. If "*tumahre gharu hundis*" were sent, the hawaladar doing the sending was essentially stating that the other must assume the responsibility for the transaction.

Within these general categories, more subtle distinctions emerge; these are modernly communicated without the use of physical media. Various terminology used in the exchange process indicate to whom the property right applies. With the advent of the telegraph, the phone, the fax machine, the cellular phone, and eventually the Internet – the cost of communicating the reputation of others in the network has declined dramatically.

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[15] There were two general kinds of hundi: *Darshani* and *Mudati*. The *Darshani* were payable on presentation and the *Mudati* were payable after a stipulated period of time or given date. Both kinds of hundis are then classified into various types according to negotiability and type of payee. From *Indigenous Banking in Ancient and Medieval India* by Brijkishore Bhargava Bombay, 1934 D.B Taraporevala Sons & Co. Treasure House of Books. Pgs. 179 - 180

## IV. Peripheral Mechanisms

The analysis to now has distinguished reputation mechanisms as the way in which coordination and peaceful exchange is achieved among hawaladars. These results, extending the findings of Greif (1989; 1993; 2006) and Milgrom et al. (1990), however, require an additional mechanism to explain how coordination can be maintained among larger numbers than they studied.

As established earlier, the peripheral transactions in hawala networks involve outsiders. In colonial India, these outsiders were European soldiers, merchants, and travelers. In the modern context, migrant workers sending remittances are the primary clientele of the hawaladars. The transactions between the principals and the hawaladars are the peripheral transactions of the network, and stretch the network into a large group setting.

For reputation mechanisms to secure cooperation among large numbers of people, communication must not become prohibitively costly. Ex ante signaling mechanisms are necessary to elicit customers and credibly establish trustworthiness; however, these signals must be costly enough to send that they remain informative and do not degenerate into cheap talk. How do hawaladars balance these necessary costs to their advantage of gaining the peripheral transactions?

As discussed above, hawaladars typically operate small merchandise shops, travel agencies, or import/export operations. These businesses require initial fixed costs – costs significant enough to indicate commitment to the community and credibly signal that the hawaladar has a sufficiently low discount rate not to cheat. These costs are assumed under the 'legitimate' business plan and accounted for as such. The creation of a credible ex ante signal of trustworthiness through the operation of a business or shop becomes marginally a low cost means of communicating reputation in peripheral hawala transactions. These costs are perceived by customers of hawaladars as credible signals, but are sunk costs in terms of (previously borne) additional business practices. In this way, the necessary costs of creating the credible signal ex ante are incurred, but the marginal cost of then serving as a valuable signaling mechanism to customers seeking hawala services is low.

Ex ante adoption of particular signaling mechanisms function to underscore the margins on which pairs establish trustworthiness. By investing in a costly signal, a member of the community can identify

himself ex ante as a likely trading partner to others (Iannaconne, 1992). Signaling acceptance of cultural practices and similar status through similarly adopted norms can establish similarities between traders, thus forming the basis of mutual trust (Rafaeli and Pratt, 1993).

These signaling mechanisms, coupled with the competitive pressures facing hawaladars, impose discipline among traders and potential trading partners. Low cost mechanisms indicating a requisite level of trustworthiness allow hawaladars to extend services to local clientele.

## V. Conclusion

These findings suggest that coordination and peaceful exchange is achieved among hawaladars. These results extend the studies of Grief (1989; 1993; 2006), Landa (1981; 1994), and Milgrom et al (1990) to exchange among many traders covering the globe and moving vast amounts of resources. The established trust and communication necessary to punish cheaters restricts the amount of defection within the network. Among the literature on hawala, a general consensus (Ballard, 2002; El Qorchi et al, 2003; Monsutti, 2004; Passas, 2006; Rudner, 2002; Subramanian, 1987; Torri, 1991; Wilson, 2002) found that "one is hard pressed to find a cheated party" (Passas, 2006). Defection probably does occur, but it is the surely the exception rather than the norm.

Examination of currently operating hawala networks reveals that self-enforcing exchange is possible among groups who share only particular margins of similarity. The hawala networks analyzed above have evolved to effectively segment the transaction and extend the network. Hawala networks incorporate the use of ex post reputation mechanisms to support large volumes of trade among themselves, and use ex ante signaling to credibly communicate reputation to customers.

The core transactions of hawala networks operate on trust that is established through shared norms and values as well as the interconnectedness of economic relationships. These exchanges enforce easily because the total amount of information that must flow though the network is limited, and that which does require transmission is communicated effectively in a relatively swift and low cost manner. However, the core transactions of these networks are profitable only to the extent that they attract business from outsiders.

Ex ante signaling of trustworthiness and shared values elicits cooperation in peripheral transactions.

When formal mechanisms for enforcing property rights are non-existent or prohibitively costly, self-enforcing means of overcoming the coordination problem arise to meet the needs of individuals seeking mutually beneficial exchange. Remittance systems of exchange highlight how self-enforcing arrangements are prevalent in areas where contract uncertainty exists.

Economic growth entails a movement from personal to impersonal exchange. This paper shows that reputation and signaling mechanisms for securing gains from trade have a broader scope than previously recognized, and suggests international exchange as a particularly fruitful extension of this literature. The persistence and maintenance of these types of institutional structures exists in contexts where government acts as a predator on market activities, and effective formal enforcement of private property arrangements is weak or absent.

Hawala networks arise as substitute institutions for highly regulated, corrupt, unenforceable, or nonexistent formal systems. These networks also persist when the costs of using formal systems are prohibitive. The robust structure of relationships that binds this system together is important in its own right to understanding how cooperation is achieved absent a credible third party enforcer. Hawala serves an important market gap in the formal system, enabling those for whom sending remittances would have been marginally cost prohibitive to do so. These market gaps are crucial in places such as Somalia today, where they act as the only channels for foreign capital to reach the people.

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